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TITLE : SEAWATER CORROSION RESISTING AL-MN ALLOY THERMALLY SPRAYED STEEL STOCK

ABSTRACT : PURPOSE: To obtain a seawater corrosion resisting Al-Mn thermally sprayed steel stock having high corrosion resistance and long-term stability in a seawater atmosphere and also excellent in design characteristics by forming, by thermal spraying, an Al-Mn alloy coating layer on the surface of a steel stock and further subjecting the resulting thermally sprayed layer to sealing treatment.

CONSTITUTION: The surface of a steel stock for use in a highly corrosive atmosphere, such as seawater atmosphere, is subjected to descaling and surface roughening treatments by means of shot blasting treatment, etc. Subsequently, an Al-Mn alloy containing 1-40wt.% Mn is thermally sprayed on the above surface by means of plasma spraying, etc. Then, the above steel stock having the resulting thermally sprayed layer of Al-Mn alloy is immersed into a treatment solution of sulfuric acid, phosphoric acid, etc., and subjected to anodic oxidation treatment to undergo the formation of colored anodic oxidation film, and then, fine pores in the anodic oxidation film are sealed by means of vapor sealing, epoxy resin, water glass, etc. By this method, the Al-Mn alloy thermally sprayed steel stock having design characteristics and excellent in corrosion resistance and stability to seawater can be obtained.

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